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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,452	01/23/2001	Klaus Schafer	30563/181659	2118

826 7590 08/13/2003

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16  
EXAMINER

DEL SOLE, JOSEPH S

ART UNIT

PAPER NUMBER

1722

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/767,452

Applicant(s)

SCHAFFER ET AL.

Examiner

Joseph S. Del Sole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 and 24 is/are allowed.
- 6) ☒ Claim(s) 1-5, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 6-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Therefore the Applicant's amendments have been entered the following action is non-final.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5 and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Mears (EP0682720B1) or Mears (WO95/15409).

Mears (either reference) teaches a melt spinning apparatus having an extruder (Fig 3) for heating a polymeric material and extruding the resulting melt through a spinneret nozzle (Fig 1, #25) to form a plurality of downwardly advancing filaments; a cooling tube (Fig 3, #s 35 and 59 together) disposed below the spinneret nozzle for receiving the advancing filaments and having an inlet, a cylindrical portion below the inlet, and an outlet; a gas permeable inlet cylinder (Fig 3, #65) positioned between the spinneret nozzle and the inlet of the cooling tube; a suction generating device (Fig 3, #37) connected adjacent the outlet of the cooling tube so as to generate an initial cooling air stream through the cooling tube in the direction of the advancing filaments

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(Fig 3); an air supply device (Fig 1, #39 and #60) for generating an additional cooling air stream in the axial direction of the cooling tube, with the air supply device being positioned downstream of the inlet of the cooling tube so that the additional cooling air stream contacts the downwardly advancing filaments within the cooling tube and so that the additional cooling air stream is withdrawn from the cooling tube by the suction generating device; guide means (Fig 1, #33, the filaments are gathered in the cooling tube, such bringing together is aided by #33) for gathering the advancing filaments to form an advancing multifilament yarn; a winder (Fig 3, #28) for winding the advancing multifilament yarn into a package; the air supply device is connected to the cooling tube such that the initial cooling air stream and the additional cooling air stream flow together in the direction of the advancing filament (Fig 3); the air supply device comprises at least one opening in the cooling tube between the inlet and the outlet (Fig 1), and wherein ambient air is caused to enter the cooling tube through the at least one opening (Fig 3, the portion represented by #39) by the suction generating device so as to form the additional cooling air stream); the air supply device has at least one opening in the cooling tube between the inlet and the outlet, and an air stream generator connected to the at least one opening, and wherein air is caused to positively enter the cooling tube through the at least one opening by the air stream generator so as to form the additional cooling air stream (Fig 3, #60); the air stream generator has an injector which has a nozzle bore and a source of compressed air connected to the nozzle bore, with the nozzle bore of the injector communicating with the at least one opening, and wherein the cooling tube defines a center axis, and wherein the nozzle bore is inclined with

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respect to the center axis at an angle less than 90° so that the additional cooling air enters the cooling tube in a direction having a component in the direction of the advancing filaments; and the suction generating device draws air from a continuous opening extending from the gas permeable inlet cylinder (which has a perforated wall at two opposite sides) and through the cooling tube.

The limitation "only shortly before or after solidification of the filaments" is merely a process limitation, since the solidification point depends on the conditions of operation and the materials used, and does not provide structure to limit the apparatus. It is an attempt to limit position based on weightless process conditions and is not functional language.

#### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-5 and 13-16 and 21-22 have been considered but in view of the new ground(s) of rejection, not all arguments are addressed.

The Applicant argues that neither Schippers nor Peckinpaugh teach the structures claimed.

The Examiner agrees and have removed the rejections drawn to these references accordingly.

The Applicant argues that Mears does not disclose or suggest an apparatus wherein an additional cooling air stream contacts the filament bundle only shortly before or after solidification of the filaments.

The Examiner disagrees. Mears teaches every structural limitation claimed. The limitation "only shortly before or after solidification of the filaments" is a process limitation that relies on process conditions, such as the temperature at which the filaments are extruded, the temperature of the air and gases within the apparatus after the extruder, the rate at which the filaments are extruded, the type of material extruded among other conditions. Even if means plus function weight were given to the limitation, it would merely limit the claim to a structure that is capable of performing such a function; however it is not a functional limitation is a structural limitation of an element's position in comparison to a property of the material shape which determined by the process. The apparatus taught by Mears can perform such a function wherein the position is such that it is relative to the solidification point; therefore Mears is a structural equivalent. (Depending on the process conditions discussed above, the solidification of the filaments may occur before or after contact with the cooling stream.) Additionally, "shortly" is not defined and would still cover a distance over the majority of the length of the cooling tube.

The Applicant argues that the recitation of claim 1 "so that the additional cooling air stream... by the suction generating device" is drafted in accordance with 112, 6<sup>th</sup> paragraph.

This action has been made non final and the only recitation within this recitation that is not being treated as structurally limiting in claim 1 is the limitation: "only shortly before or after solidification of the filaments". This is a positional limitation based on process conditions and not a functional limitation. Mears teaches the structure claimed

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and teaches a structural equivalent to the structures defined in the specification in so far as being capable of performing the functions claimed.

***Allowable Subject Matter***

5. Claims 23 and 24 are allowed.

6. Claims 6-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to teach or suggest the invention as discussed in the previous Office action mailed 2/21/03 and further fail to teach or suggest the air supply device having at least one opening in the cooling tube between the inlet and the outlet having an adjustment device for varying the flow cross section of the at least one opening in combination with the limitations of the parent case. Additionally the prior art of record fails to teach or suggest the air supply device having an annular perforated sheet element which forms the entire circumference of a portion of the cooling tube and fails to teach the air supply device connected adjacent the outlet of the cooling tube and so as to be positioned below the suction generating device such that the additional cooling air stream flows opposite to the direction of the advancing filaments.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph S. Del Sole whose telephone number is (703) 308-6295. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Wanda Walker, can be reached at (703) 308-0457. The official fax


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phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

*Joseph S. Reid Sale*

J.S.D.  
August 11, 2003

  
ROBERT DAVIS  
PRIMARY EXAMINER  
GROUP 4300-1700  
8/11/03